Blockchain Working Group Meeting Minutes
June 2, 2020 2PM to 5PM

1) GUIDELINES AND INSTRUCTIONS FOR REMOTE PARTICIPATION

The facilitator Orit Kalman will provide a briefing on remote participation guidelines for the meeting.

2) CALL TO ORDER Chair Crittenden called the meeting to order at approximately 2:03PM

ROLL CALL:

Assemblymember Ian Calderon – Voleck: Not present
Senator Robert Hertzberg – Freddie and Cynthia Castillo: Present
Ben Bartlett: Present
Brian Behlendorf: Present
Benjamin Bonte: Present
Audrey Chaing: Present
Liz Chien: Present
Radhika Iyengar-Emens: Present
Meredith Lee: Present
Anne Neville-Bonilla: Present
Arshad Noor: Present
Ted Ryan: Not present
Jason Albert: Present
Sheila Warren: Present
Amy Tong: Not present
Sergio Gutierrez: Present
Michele Neitz: Present
David Tennenhouse: Present
Kem Musgrove: Present

Quorum established.

3) AGENDA AND MEETING GUIDELINES

Orit goes over the agenda and meeting guidelines briefly.

BWG Comments:
- Michele: I feel even more strongly inclined to try and make this field more diverse, and to infuse that in our report.
- Brian B.: Current events make me think that we should discuss the use of blockchain in the justice system.

- Sheila: The reason I'm passionate about this technology is because it gives us the opportunity to build better, more equitable systems that hold institutions accountable.

4) CONSIDERATIONS FOR APPROPRIATE APPLICATIONS -- DECISION-MAKING PROCESS

Sheila Warren presents a revised version of the decision-making process--see associated documents
- Some of this reflects direct changes from last time
  - Avoiding the imagery or green and blue
- We also had a linear vs. matrix discussion last time. Here, there isn't really an end point. I think the A through G doesn't make it as conclusory as the previous version but I'm open to comments.

BWG comments:
- David: It feels as if, after question C you could just go directly to "DLT may work" and "here are four questions to ask"
  - Right now it's just confusing if you get a "yes" after G
  - With respect to G in particular, I wouldn't agree with that comment--if the parties already know/trust each other, there's no need for blockchain. This misses out on a lot of good applications where the entities have considerable trust.
- Sheila: I think the point of systemic trust could be captured better in the accompanying text of G
- Brian B.: I'd argue that if the parties do trust each other enough to have someone running a central system, you don't need a blockchain. So I would argue that G should be A.
  - Sheila: I agree and had it placed earlier before, but I am open to thoughts.
- Radhika: If respect to B, there are multiple needs for blockchain. It's not a trust issue, its also a transparency issue. One of the big "whys" of blockchain is that right now, records can be altered. Any alteration should be transparent.
  - Radhika: In my view, all records should be permanent with regards with transparency. The "should a permanent record be created"--that's what I have issue with.
  - Sheila: What I'm trying to say is "is this important enough" to have a permanent record? For example, you wouldn't put your grocery list on a permanent blockchain.
  - Radhika: Maybe that's step A--what's the importance of the records stored on the blockchain? That way you're prioritizing certain information over the other.
  - Sheila: Maybe--"Is a permanent record warranted?" If we change that, it clarifies the rest of B.
- Audrey: I agree with David's comments on the right-side of G. I liked what we were just talking about with regards to B. Maybe we could also say something about--should updates be captured, on the right-hand-side of B? Also with the A-G format, it doesn't

strike me as too prescriptive, but I am concerned that someone will take the flowchart and not the supporting text. Maybe if we put different shapes in place of the A-G and have that as the right as well? It doesn't make sense to cut that off with shapes on the side.

- ○ Audrey: We don't want someone to crop out the explanations on the right. We want to make sure its impossible to divorce the text to the right with the diagram.
- Orit: When I see questions A through C and E through G, I think questions A through C are the critical ones and E through G are the "additional info?".
  - ○ Sheila: It's not really a tiering, its mostly gates. It's impossible to capture all the nuance in a diagram like this.
- David: For A, on the right-hand-side, the use of the term "asset" might be confusing for non-techies. If you're talking about a car or title registry, someone might think that you can't do it because of the word "asset". The title can be digitally native but the car might not be.
  - ○ Sheila: We went back and forth on this for weeks the first time we did this, and couldn't come up with anything.
  - ○ David: For the RHS of A, what about following asset with something like "(or representation thereof)"

Public comment:
- Christian Kameir: The confusion is that distributed ledger technologies are not blockchains

5) REVIEW FINANCE, PAYMENTS, COMMERCIAL BUSINESS DRAFT REPORT & RECOMMENDATIONS

Digital Identity: Jason and Radhika
Jason gives an overview of digital identity--see associated documents
- Radhika: I think the whole driver's license and health records is a good pilot area. Many of us are looking at the REAL ID as an impending transition. To get a REAL ID remotely, I have to upload sensitive documents digitally to prove who I am. There's no time like the present to have the urgency of blockchain-based systems be explored.
- Radhika: Verifiable credentials are going to be needed for COVID-19. In the meantime, we've got testing, contact tracing, vaccine development, etc. All of these need to be verifiable and authenticated, and that could be a risk factor. Are the tests bona fide, do you have an antibody test, etc?

BWG comment:
- Brian B.: I'm wondering if you thought to provide guidance on limiting the amount of extraneous information on credentials. Also, on the tracking of consent--with CCPA/GDPR, limiting exposure and being clear on the rights and re-sharing the info forward. Recording into a blockchain ledger the act of giving consent seems important.

- ○ Jason: Totally agree. The grant of consent should be recorded. One way it works is that for you to receive a credential, you need it signed by the issuer (for example, DMV) and the individual (to show that they've given consent). We should reflect that. The first point is interesting.
- Radhika: Selective disclosure should be the operating feature, not putting private info on the blockchain, etc.
- David: I'm confused based on some of what I've heard. Some people want us to store the identification on a blockchain--I want to think most of us have agreed, since we just heard in the previous item, that private info shouldn't be on blockchain. I'm guessing this is meant to be about using a blockchain to verify credentials. If that's what is intended, that's what should be delineated in the report. In the absence of calling that out, people might misread it. So, it should be like a third bullet in how these things are used in blockchain.
- Michele: Are we headed towards private companies building these? Or a state blockchain?
- Michael: Guidelines around implementation are super helpful for us and our office. Specifics about what should/shouldn't be stored on a blockchain, what kind of access we should have, etc. We've had concerns from ACLU and EFF around this being a building block towards requiring immunity passports. That's not what this bill does. It simply provides the option.
  - ○ We're chatting with the California Medical Board, fleshing out a policy implementation and of who can issue a verifiable credential and who can issue these.
- Brain B.: What blockchain to implement these credentials on is very important. There may need to be a "public option" equivalent. It may be worth thinking about. A utility network is starting to be used.
  - ○ The Trust over IP Foundation is putting together a white paper on digital identity--helpful to think about implementation. Here's the link.

Public comment:
- Christian Kameir: The term "digital identity" is historically and wrongly applied as a metaphor for PROFILES (a set of DATA), and is semantically firmly anchored in the realm of transhumanism. From a legal perspective identity requires the detection of AGENCY. -- The recommendations seem to be limited to IDENTIFICATION, and/or CREDENTIALING which is ONE (1) of at least NINE (9) levels of agency.
- Nic Ming: Potential Pilot Project: Delivery of services to persons experiencing homelessness
- G. Park: Consider recommending a BC pilot with CA Commission on POST (Peace Officer Standards & Training) to catalog Law Enforcement Officer training records from academy to retirement, across all agencies that an officer might be employed by. Could also include a Peace Officer digital identity that would be used to file police reports, citations, RIPA submissions, etc.

- Mary Strain: Professional licensing presents a strong use case that can support public safety and engage the public in compliance
- Phillip Shoemaker: With California's laws on requiring cannabis dispensaries to hold their own honey pot of identities, digital identities are critical for the safety and security of our information.
- Bob Reid: Even though I appreciate that verifiable credentials are popular, its just one element of identity management. Most identity companies focus on deduplication--making sure there's only one identity for one person. We still have to get back to deduplication (fundamentally there's only one of me).
  - We are doing verifiable credentials on ethereum mainnet.
  - [Look at this link here](#).

Tax Use: Liz
Liz presents on recommendations--see associated documents
- From what I found, on the income tax side, the issues are political on why there isn't a more simplified tax preparation service. Lobbying stifled previous efforts to simplify income tax preparation.
- There may be some use cases on the sales tax side.
  - The Netherlands and Thailand are instituting pilot programs to better identity VAT (value-added tax) taxes. Blockchain better identifies fraud in VAT tax systems.
- For blockchain to work for sales tax, all the stakeholders need to be on the same platform. If they're not on the same platform, its hard to track and match when invoices are being sent out.

BWG comments: None

Finance, Payments and Commercial Business-- Bonds and Public Finance: Ben
Ben presents on recommendations--see associated documents

Finance, Payments and Commercial Business-- Public Banking: Ben
Ben presents on recommendations--see associated documents
- Ben: Public banks in California are now around, but are so new.
- Ben: Public banks could also participate in the recovery project for the state.

BWG comments:
- David: Recommendation #2 makes sense. Recommendation #3 doesn't seem to be a recommendation, and doesn't seem to be specific to blockchain. Also, I don't understand recommendation #1 and how it's related to blockchain.
  - Also, have we polled the other organizations who may be interested in blockchain? Other than CDF?
- Meredith: To avoid confusion, I wouldn't call out specific organizations. If its pulled out of the recommendations that Camille is saying, then you have more space to cite an article.

- David: If we wanted a recommendation about the concept of community development finance, I'd be in support of that.
  - Audrey: That makes a lot of sense.

Public comment:
- Adam Horn: On public banking, I think you run into a similar issue of multiple systems since each public bank would have to be authorized and implemented by the local agency

Finance, Payments and Commercial Business-- Digital Asset Banks: Ben
Ben presents on recommendations--see associated documents

BWG comments:
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- Arshad: I'm not an economist, but I don't understand how the promise of cash can be weighed the same as actual cash.
- David: Recommendation #2 says *significant* economic growth--are we able to document that?
  - Audrey: What if we say "may derive" economic growth?
- David: I am aligned with Arshad on this. I looked briefly at the Wyoming rules and my layman's view is that they looked like a path to the State becoming the next Iceland.

Public comment:
- On this topic of digital asset banks, digital assets are more comparable to a fiat currency than a commodity. Presenting is as a commodity similar to gold is starting off on what I see as a fraudulent position that can be easily manipulated. I think that Michele Neitz has a good point that it's about revenue for issuing charters and specific licenses.

Finance, Payments and Commercial Business-- CalCoin: Ben
Ben presents on recommendations--see associated documents
- One-third of the nation's unemployment benefits have not made it to citizens because of old software systems. In the first draft of the federal relief package, there was something called the FedCoin that would speed payments.
- The sheer amount of aid distributed in California is tremendous and growing.
- Especially for homeless individuals, this can be helpful.

BWG comment:
- Jason: This is an interesting recommendation in that I like doing something about public payment and benefits. But I worry that this complicates something that is better handled by EBT cards--existing infrastructure. I also worry about restrictions on pre-approved products and services.
  - Ben: This is a big topic that it might have its own working group.

- Brian B.: I am concerned there aren't enough privacy protections to use DLT for public payments.
- Arshad: There's a lot of questions in the implementation of something like this, and a lot of security implications. It could be made a little broader without having to specify much. It could potentially facilitate the state to enable significant levels of transparency if blockchain were integrated into CalCoin.
    - Ben B: This of course requires strong identity solutions too
- Anne Neville-Bonilla: I'm not an expert in finances, but can you talk about the trust issue on this? And where that comes into play? I'm cross-referencing this to the decision tree at the beginning.
    - Why is it that blockchain is the right recommendation versus something else?
    - Ben B: On the trust level, you have lots of fraud in the system. A woman and her daughter become homeless, they apply for a waitlist, and they finally get a housing voucher. They go to the list of apartments and the apartment owners take the vouchers and say there's nothing there and they cash the voucher. This happens all the time.
- Anne Neville-Bonilla: We should make clear we're talking about making sure others don't take-away public benefits from others.
- Michele: I was supposed to be the point person for public benefits, and I stated that we shouldn't change public benefits right now. But that was before COVID-19. I think Brian and Anne's concerns are valid about privacy and auditability. I think its important that we find a way to modernize how these payments are delivered. The state needs to recognize the crisis and find innovative solutions.
- Arshad: Maybe we could just leave it at #1 and #2a, and not worry about part 2b?
    - Ben B: I defer to the group.
    - Jason: Arshad's recommendation makes sense to me.
- Liz: The only other state that does have a public bank is North Dakota, so we should perhaps do more research on that bank. One of the biggest issues with state public banks that undertake banking services for businesses that are only legal in that state is that is severely limits what it can do with deposits. Most banks earn profits from lending out deposits. Every contact point would be "tainted" by a business that's only legal in one state.

Public comment:
- Chris Groshong: The ULC (Uniform Law Commision) and the ALI are reworking the Uniform Commercial Code to incorporate blockchain/digital assets. When we talk about how businesses do investments. Template law is going to be passed out to states after we decide on revisions.
- Eric Bryant: The Homeless, as an example, would not benefit from an EBT or Debit card program. CalCoin could incorporate Bio-Metrics to assure every Californian has a voice.

Finance, Payments and Commercial Business--Cannabis Banking: Ben
Ben presents on recommendations--see associated documents

- Cannabis banking is stymied by federal prohibition. It's interesting to have a group of people sit it out.
- Much of the industry is off-the-books now and is all in cash.
- For example, last night, one of the dispensaries in my district was robbed seven times. In a time of great financial distress, it's inherent upon the state to make businesses safer.

BWG comments:
- Brian: How does this route around the federal laws that make it illegal for such parties to open such a bank account? Has this been tested in court anywhere?
  - Ben B: There are elements at play involving California. The way you have ATM machines inside stores. Those systems can be replicated in a systemic way utilizing the equivalent of an ATM machine, where there's a gap within the transaction.
- Maybe replace "would benefit" with 'may benefit" on the first bullet.
- Arshad: Without getting into the specific text on the slides, I'm starting to believe that public banks can solve many problems for the state. Given that the state is likely to be distributing lots of money as benefits and economic incentives to people and companies to revive the economy, should the state get behind creating the first public bank? I don't know much about the other recommendations.
  - Can we get the public bank created first without using cannabis?
  - Radhika: I agree with Arshad's point on the potential of a larger role for public banks
- Camille: We could also talk about how public banks should be explored in a different working group and how it may go beyond the scope of this report.

Public comment: None

Finance, Payments and Commercial Business--Remittances: Mai
Mai, Arshad, and Liz present on initial recommendations
- Arshad: If there's no public bank, there's not much potential unless there are public banks.
- Liz: There are quite a bit of private sector solutions that already provide lower-cost remittances. I do think these solutions are on the market and are utilized by existing remittance providers. Unless there's some connection between a payment that's sent by a California source payment and any type of state payments--unless the state is the origin of the payment, we don't know what the role is for them to get involved.
- Arshad: Unless we add a qualifier of "until a public bank is formed and operational", then we're correct, the state has a limited role. Once such a public bank exists, it opens up possibilities.
- Liz: We should have something in there of whether this is really a problem. Is it actually expensive now based on other channels to send $$ to certain countries? For example, the price of remittances is going down. We have to ask the question--is there a problem

to solve here? And then does a California public bank have a role to play? I think the price is going down b/c its a competitive market.
- [Liz and Arshad will edit the language of this slide]

BWG comments:
- Radhika: I've done some work on CULedger, and farm workers seem to pay almost 40% in fees to send money cross-border. So there does seem to be issues. I do think something like a public bank could be helpful in this regard. The issue is that these farm workers don't have the mechanisms to open up bank accounts.I can do some research on this.
  - Liz: That's an interesting point.

Public comment:
- Howard: I am in Information Technology Cybersecurity. I have attended your last and this meeting and while I have missed parts here and there (so if I missed this I apologize) I have heard very little if any discussion around security of any blockchain technology (policy) implemented by the State of California. It should be critical and imperative that ongoing conversations around security of this technology is maintained throughout the development of any platform. Security should be "baked in" in any technologies stood up by the State and the related and associated policies of it. Perhaps this can be addressed in future meetings?

6) CLOSING REMARKS & NEXT STEPS
Camille discusses next steps.

7) PUBLIC COMMENT ON ITEMS NOT ON THE AGENDA
No public comment.